

Please cancel claims 61-73.

42. A method of forming a capacitor structure, comprising:

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forming a container construction comprising a first silicon-containing layer around a second silicon-containing layer; the first silicon-containing layer being more heavily doped with conductivity-enhancing dopant than the second silicon-containing layer; the second silicon-containing layer defining an inner periphery of the container and the first silicon-containing layer defining an outer periphery of the container;

converting at least some of each of the first and second silicon-containing layers to hemispherical grain silicon; the hemispherical grain silicon from the first silicon-containing layer having a smaller average grain size than the hemispherical grain silicon from the second silicon-containing layer;

forming a dielectric material along the inner and outer peripheries of the container construction; and

forming a conductive material over the dielectric material; the container construction, dielectric material and conductive material together defining at least part of the capacitor structure.

43. The method of claim 42 wherein the converting comprises:

(1) exposing the at least some of each of the first and second silicon-containing layers to silane gas and a temperature of at least about 550°C for a time of less than or equal to about 2 minutes under a vacuum of less than or equal to about 1×10^{-4} Torr to seed the at least some of each of the first and second silicon-containing layers; and

(2) annealing the seeded layers at a temperature of at least about 550°C for a time of less than or equal to about 3 minutes.

44. The method of claim 42 wherein the first silicon-containing layer comprises a dopant concentration of at least 1020 atoms/cm³.

45. The method of claim 42 wherein the first silicon-containing layer comprises a dopant concentration that is at least 103 fold higher than any dopant concentration in the second silicon-containing layer.

46. The method of claim 42 wherein the first silicon-containing layer comprises a dopant concentration that is at least 105 fold higher than any dopant concentration in the second silicon-containing layer.

47. The method of claim 42 wherein the first silicon-containing layer comprises a dopant concentration that is at least 1010 fold higher than any dopant concentration in the second silicon-containing layer.

48. The method of claim 42 wherein the second silicon-containing layer is substantially undoped.

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49. A method of forming a capacitor structure, comprising:

- providing a substrate having an electrical node supported thereby;
- forming an insulative mass over the electrical node;
- forming an opening extending through the insulative mass to the electrical node; the opening having a periphery which includes at least one sidewall;
- forming a first layer along the at least one sidewall of the opening;
- forming a second layer along first layer; the second layer comprising silicon which is doped with a conductivity-enhancing dopant; forming a third layer along the second layer; any concentration of conductivity-enhancing dopant in the third layer being less than the concentration of conductivity-enhancing dopant in the second layer;
- removing some of the insulative mass to expose at least a portion of the first layer;
- removing at least some of the exposed portion of the first layer to expose at least some of the second layer;
- converting at least some of the third layer to hemispherical grain silicon;
- forming a dielectric material along the third layer and exposed portion of the second layer; and
- forming a conductive material over the dielectric material; the second layer, third layer, dielectric material and conductive material together defining at least part of the capacitor structure.

50. The method of claim 49 wherein the first layer comprises a metal.

51. The method of claim 49 wherein the second layer comprises a dopant concentration of at least 10^{20} atoms/cm³.

52. The method of claim 49 wherein the second layer comprises a dopant concentration that is at least 10^3 fold higher than any dopant concentration in the third layer.

53. The method of claim 49 wherein the second layer comprises a dopant concentration that is at least 10^5 fold higher than any dopant concentration in the third layer.

54. The method of claim 49 wherein the second layer comprises a dopant concentration that is at least 10^{10} fold higher than any dopant concentration in the third layer.

55. The method of claim 49 wherein the converting occurs before the removing at least some of the exposed portion of the first layer.

56. The method of claim 49 wherein the converting occurs after the removing at least some of the exposed portion of the first layer.

57. The method of claim 49 wherein the converting occurs after the removing at least some of the exposed portion of the first layer and wherein the converting further comprises converting at least some of the second layer to hemispherical grain silicon during the conversion of the at least some of the third layer to hemispherical grain silicon.

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58. The method of claim 49 wherein the converting occurs before the removing of some of the insulative mass.

59. The method of claim 49 wherein the converting occurs after the removing of some of the insulative mass.

60. The method of claim 49 wherein the converting occurs after the removing of some of the insulative mass and before the removing at least some of the exposed portion of the first layer.
